

PARK OPERATIONS

ORGANIZATION AND PROGRAM AREAS

The superintendent is responsible for the overall operation and management of the park. There are two centers of operation: the administrative headquarters at Houghton and the summer headquarters at Mott Island. The park is organized into three main divisions: administration, maintenance, and ranger activities and resource management.

Because of the proximity of Isle Royale National Park to Keweenaw National Historical Park and the need to conserve money and other resources, Isle Royale will provide some support services to Keweenaw. The current use of Isle Royale National Park administrative staff for comprehensive administrative services to Keweenaw National Historical Park will continue. The superintendent of Keweenaw National Historical Park is under the direct supervision of the superintendent of Isle Royale National Park. This is the most effective sharing of services and expertise.

The Division of Administration, located in Houghton, is headed by the administrative manager/assistant superintendent. The division is responsible for personnel management, payroll, procurement, contracting, budget and finance, property management, mail and files, and the operation and maintenance of the parkwide computer system. The division also manages and supervises the operation of the *Ranger III*, a 165-foot vessel that provides primary transportation and logistical support for all island operations.

The Maintenance Division is responsible for the operation and maintenance of all park facilities and equipment, including buildings, boats, utility systems (water, power, sewer, and solid waste), employee housing, trails, campgrounds, docks, and radio and telephone systems. The division is also responsible for the

transportation, storage, and distribution of gasoline for both the National Park Service and the concessioner.

The Division of Ranger Activities and Resource Management is responsible for program areas that include natural resource management (wildland and natural fire management, inventory and monitoring programs, research, wilderness management, and geographic information systems), emergency services (search and rescue, emergency medical services), SCUBA diving program, law enforcement, concessions management, interpretation and visitor services, environmental education, fee collection, *Ranger III* and group camping reservations, and cultural resource management (management of museum collections and historic structures, archeological inventory and compliance, cultural fishing demonstration program, and management of life leases).

Funding and staffing (full-time equivalency, or FTE) available and allocated to the different division program areas in FY97 are itemized in tables 9 and 10.

TABLE 9. FY 97 PERSONNEL SUMMARY

| OFFICE/DIVISION | TOTAL FTE ALLOTTED | PERCENTAGE OF TOTAL |
|--|---------------------------|----------------------------|
| Superintendent's office | 1.15 | 2.0% |
| Administration | 7.39 | 13.2% |
| <i>Ranger III</i> | 6.30 | 11.2% |
| Maintenance | 22.51 | 40.1% |
| Natural resource management | 3.56 | 6.3% |
| Cultural resource management | 1.62 | 2.9% |
| Interpretation | 7.33 | 13.0% |
| Law enforcement / emergency services | 4.25 | 7.6% |
| Ranger activities and concessions management | 2.07 | 3.7% |
| TOTAL | 56.18 | 100.0% |

*Base FTE allocation is 56

TABLE 10. FY 97 BASE FUNDING SUMMARY

| OFFICE/DIVISION | FUNDING ALLOTTED | PERCENTAGE OF TOTAL |
|--|-------------------------|----------------------------|
| Superintendent's office | \$128,500 | 5.7% |
| Administration | 359,100 | 16.1% |
| <i>Ranger III</i> | 244,300 | 11.0% |
| Maintenance | 840,500 | 37.8% |
| Natural resource management | 154,300 | 6.9% |
| Cultural resource management | 60,100 | 2.7% |
| Interpretation | 161,500 | 7.3% |
| Law enforcement / emergency services | 181,200 | 8.1% |
| Ranger activities and concessions management | 97,800 | 4.4% |
| TOTAL | \$2,227,300 | 100.0% |

MARINE OPERATIONS

All park operations are dependent on the park's fleet of 33 boats, most of which range from 16–33 feet long. Most of the larger vessels are about 20 years old; most of the smaller vessels have recently been replaced with low-maintenance workboats.

Specialized vessels include a tugboat, a work barge, a 55,000-gallon fuel barge, and a military landing craft (LCM-8). The work barge and LCM-8 are primarily used to transport items that cannot be transported on the *Ranger III*, such as vehicles, sand or gravel, and construction supplies. Park vessels are maintained at facilities on Mott Island.

Primary transportation and logistical support for the park is provided by the *Ranger III*, a 125-passenger vessel built in 1958. This NPS-owned and operated vessel sails to the island from park headquarters in Houghton, a distance of over 60 miles. The *Ranger III* runs from late April or early May until the end of October, normally taking two days for each round trip. All crew positions on the vessel require Coast Guard licenses and/or certificates. During the spring and fall freight season, the vessel makes one trip to the island per week. A crew of nine is required May 15–September 15 when the vessel carries paying passengers. During this period, the *Ranger III* makes two trips to the island each week. The vessel provides interpretive cruises on the Portage Canal for paying passengers one night per week during the summer.

The *Ranger III* provides transportation to the island for employees and visitors, carrying approximately 4,500–5,000 people each year. In a season, over 1,500 people take the weekly cruise on the Portage Canal. Most freight, groceries, and mail needed by NPS and concession operations on the island are transported on the *Ranger III*. Incineration of garbage was eliminated on the island in 1996, so the vessel now transports most of the garbage generated on the island back to the mainland. Up to six private boats 20 feet long or less can

be transported on the front deck of the vessel. All diesel fuel needed to operate boats and generators on the island is carried and delivered by the *Ranger III*.

It costs approximately \$425,000 per year to operate and maintain the *Ranger III*. This is partially offset by annual passenger and freight income of about \$175,000. Compliance with the Oil Pollution Act of 1990 has added significant new costs and requirements (including training) to the *Ranger III* operation.

As a certificated vessel, the *Ranger III* must undergo a required hull and open machinery inspection and routine maintenance in drydock once every five years. The park contracts with a shipyard for this work, which costs about \$250,000.

FACILITIES

Trails

There is a network of 165 miles of hiking trails in the park. Along these trails are about 14,000 maintained erosion control devices, approximately 6 miles of bridging, and 160 trail signs. Trails are maintained by seasonal trail crew workers supplemented by several volunteer groups. The crew has been reduced to four due to lack of funds. Insufficient maintenance has resulted in an increase in erosion and social trail development.

Docks

There are 70 boat docks of widely varying sizes in the park. About 66% are available for day or overnight use by visitors. Approximately 30 of the docks are associated with the 20 campgrounds on or near the Lake Superior shoreline. Most docks can accommodate both small and large boats and are also used by hikers and paddlers.

Visitors can obtain boat fuel from the concessioner at Windigo and Rock Harbor, where sewage pumpout service is also available. The concession marina at Rock Harbor has six public docks and is the only location in the park where water and electrical hook-ups are available for private boats.

The large main docks at Houghton, Windigo, and Rock Harbor are designed primarily for use by the *Ranger III* and the two concession-operated ferry services.

Most park docks are 30 years old or older and are in need of significant repair or replacement. Enviroscience, Inc., a marine engineering firm from Eden Prairie, Minnesota, inspected 17 of the most popular public docks in 1996. The final report estimated repair or replacement costs for the 17 docks at \$1.5 million. Repair or replacement estimates for the rest of park docks have not been prepared.

Campgrounds

There are 36 campgrounds in the park; over half are located on or near the Lake Superior shoreline. There are about 90 pit toilets, 88 shelters, and 112 individual tent sites associated with these campgrounds. There are group campsites at 17 of the park's campgrounds.

Since 1996 the park has required all groups (parties of 7–10 people) to obtain reservations for group campsites prior to visiting the island. Groups must follow the camping itinerary specified on a permit.

Individual use of sites and shelters does not require a reservation; these sites and shelters are available on a first-come, first-served basis.

Fuel Transportation and Storage

Diesel generators are used to produce all electrical power at Windigo, Rock Harbor, and Mott Island. Diesel fuel is available at Mott

Island and Rock Harbor for both park and visitor boats. About 80,000 gallons of diesel fuel is delivered to the island each year by the *Ranger III* for generator and boat use. Bulk storage tanks are located at Windigo and Mott Island. Delivery lines are all underground single-wall steel pipes.

The fuel barge *Greenstone*, pulled by the tug *Colombe* transports 80,000 to 120,000 gallons of gasoline to the island each year. Gasoline is transferred at five locations in the park and is used primarily to fuel NPS and private boats. The park charges the concessions for gas delivery based on actual NPS costs to transport the fuel. Charges vary depending on whether three or two fuel runs are made per season.

DEVELOPED AREAS

Park facilities and services are located in Houghton on the mainland and at Windigo, Amygdaloid, Rock Harbor, Mott Island, and Malone Bay on the island. All utility services on the island (water, sewer, power, and garbage) are provided by the National Park Service. All employees who work on the island move from their homes and offices on the mainland to the island each spring and then back in the fall.

Houghton

Mainland operations are located on a six-acre administrative site in Houghton, Michigan. Principal facilities include a main office building, warehouse, museum storage building, maintenance shop, baggage handling building, *Ranger III* dock and two parking lots.

The headquarters building in Houghton houses a small visitor center and office space for the administrative staff. Winter office space for permanent employees who are duty stationed on the island during the operating season is also in this building. The rental of additional office space in the city of Houghton has been necessary since 1992.

Houghton serves as the principal staging area for logistical support for NPS and National Park Concessions, Inc., island operations.

Windigo

Public facilities at Windigo are used primarily by visitors who enter the park from the north shore of Minnesota and include a 19-site campground, five docks, a shower/restroom building, visitor center, and concession store. Visitors reach Windigo by concession ferry from Grand Portage, Minnesota, by concession seaplane from Houghton, Michigan, or by private boat. Windigo serves as the winter base of operations for the annual wolf/moose study.

A new 2,300-square-foot visitor center/ranger station is being built to replace an old facility of the same size that will be demolished. Windigo has nine employee housing units for the four permanent and 6–10 seasonal employees. NPS facilities include water treatment and storage facilities, five bulk fuel storage tanks, a small community building, and maintenance shop. All electrical power is produced by diesel generators. Sewage treatment is provided by two separate leachfield/septic tank systems.

Rock Harbor

The National Park Service and National Park Concessions, Inc., both operate public and administrative facilities at Rock Harbor.

The NPCI facilities and services at Rock Harbor are detailed in the Commercial Services section. All of the principal structures used by the concession are owned by the government.

The size and scope of the concession operation at Rock Harbor requires the largest and most sophisticated utility system on the island. All utility system services required for concession operations are provided by the National Park Service. NPS use of these systems represents about 3% of the total that the systems produce.

In order to correct operational deficiencies identified in a 1996 safety inspection and a followup engineering study, the park incurred substantial new costs to operate the Rock Harbor utility systems in 1997. These costs include charges for one additional utility systems operator, extended seasons for the four other utility systems operators, reestablishment of an electrician position, and required travel and training.

NPS facilities that use water, power, and/or sewer utilities at Rock Harbor include three employee housing units for one permanent and 8–10 seasonal employees, a small visitor center, a 22-site walk-in campground, an auditorium, a public bathroom, a first aid cabin, several storage buildings, and the main ferry dock.

Electrical Power Plant and Distribution System. There are three diesel powered generators ranging in size from 135kw–275kw in a powerhouse. The electrical distribution system consists of 35 transformers, 150 poles, 3,000 feet of high line and 500 feet of underground powerline.

Water Supply Treatment System. A mixed media filtration type surface water treatment plant with a 70-gallon per minute capacity supplies water to the Rock Harbor area. A state-certified operator is required whenever the plant is in operation. A state-certified water laboratory and certified lab technicians are also required. Water is stored in a 40,000-gallon clear well and in an elevated 15,000-gallon tank. The elevated tank is in poor condition and (due to lack of height) fails to provide water pressure sufficient to meet Michigan Department of Public Health requirements. A four-inch pipeline distribution system with three dead ends is in use. There is about 9,000 feet of water line on the system.

Wastewater System and Collection Systems.

The wastewater plant is an activated sludge, extended aeration type with a capacity of 30,000 gallons per day. Though the plant is operational, system improvements and additions are needed. All state health department requirements are being met. The plant is operated under a state of Michigan discharge permit. Michigan requires a state-certified operator for the system. There is a lab associated with the wastewater plant. There are four sewage lift stations, two of which are of the air-injected type and require replacement. There is one boat pumpout facility.

Mott Island

Park headquarters is on Mott Island and includes a boat repair/carpenter shop, warehouse/maintenance building, central office building, multiple storage buildings, generator powerhouse, bulk fuel storage tanks, water treatment facility and storage tanks, and boat docking facilities. Most park operations on the island are conducted or supported by employees living and working there.

The housing units on Mott Island include seven one-, two-, or three-bedroom duplexes, two eight-unit dormitories, a five-unit apartment building, and six one- or two-bedroom single family houses. A number of employees who work at Rock Harbor live on Mott and commute to Rock Harbor daily.

Principal components of the Mott Island utility system include a powerhouse, water pumping and treatment building, water storage tanks, four septic tank/leachfield systems, and bulk fuel storage tanks. Many components of the utility system infrastructure are old. Electrical power poles, overhead powerlines and septic tank/leachfield systems are in need of significant repairs, replacement, or upgrading.

Malone Bay

NPS facilities at Malone Bay include a duplex for employee housing, one-room log ranger station, maintenance shed, water storage tank, dock, gasoline storage tank, and a seven-site lakeshore campground. Solar power and composting toilets are used in the duplex; backup power is supplied by a portable gasoline generator. Propane is used for heating and cooking. A trail connects this area to Siskiwit Lake and the Greenstone Ridge via Ishpeming Point. The area is staffed seasonally with two employees whose principal area of responsibility includes the south shore of Isle Royale from Fishermans Home to Chippewa Harbor.

Amygdaloid Island

On the west end of Amygdaloid Island, NPS facilities include a duplex for employee housing, maintenance shed, dock, gasoline storage tank, water treatment shed and storage tank, and two historic structures formerly used for employee housing. There are solar power and composting toilets in the duplex; backup power is supplied by a portable gasoline generator. Propane is used for heating and cooking. The area is staffed seasonally with two employees whose principal area of responsibility includes the north shore of Isle Royale from Little Todd Harbor to Blake Point.